

CITY OF ST. MARIES RIVERDALE WELLS (PWSNO 1050024) SOURCE WATER ASSESSMENT REPORT

March 25, 2003



State of Idaho Department of Environmental Quality

Disclaimer: This publication has been developed as part of an informational service for the source water assessments of public water systems in Idaho and is based on the data available at the time and the professional judgement of the staff. Although reasonable efforts have been made to present accurate information, no guarantees, including expressed or implied warranties of any kind, are made with respect to this publication by the state of Idaho or any of its agencies, employees, or agents, who also assume no legal responsibility for the accuracy of presentations, comments, or other information in this publication. The assessment is subject to modification if new data is produced.

Executive Summary

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the act. This risk assessment is based on a land use inventory in the recharge zone, sensitivity factors associated with how the source was constructed, and aquifer characteristics.

This report, *Source Water Assessment for the City of St. Maries Riverdale Wells*, describes the public drinking water wells; the well recharge zone and potential contaminant sites located inside the recharge zone boundaries. This assessment, taken into account with local knowledge and concerns, should be used as a planning tool to develop and implement appropriate protection measures for this public water system. **The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

The City of St. Maries, Idaho operates a community water system with 1535 connections serving a population of 2797 residents. St. Maries, the Benewah County seat, is located adjacent to the St. Joe River. Surface water from Rochat Creek is the primary source of drinking water. 2 wells located in Riverdale, a low lying area in the St. Joe flood plain that is protected by dikes, are used as back up sources in the summer or during repairs to the Rochat Creek facilities. The source water assessment for Rochat Creek was completed in November 2000.

A susceptibility analysis DEQ conducted January 27, 2003 concluded that the Riverdale wells are at low risk of becoming contaminated. The recharge zone for the wells is covered with a thick confining layer of clay soils that help protect the ground water from vertical transport of surface pollutants. The only potential sources of contamination documented inside the recharge zone are agricultural land use and surface water. Except for high concentrations of manganese, which causes taste, odor and discoloration problems, the wells have a good water quality history.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

Continuing to operate and maintain the wells in compliance with the *Idaho Rules for Public Drinking Water Systems* is the most important drinking water protection tool available to the City of St. Maries. The City is in the process of developing a cross connection control ordinance. The City should consider forming ground water protection partnerships with landowners in the recharge zone, and help them assess agricultural activities for their potential impact on water quality. Developing a water emergency response plan is also an important part of an overall drinking water protection strategy.

Due to the time involved with the movement of ground water, source water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. For assistance in developing protection strategies, please contact your regional Department of Environmental Quality office or the Idaho Rural Water Association.

SOURCE WATER ASSESSMENT FOR CITY OF ST. MARIES

Section 1. Introduction - Basis for Assessment

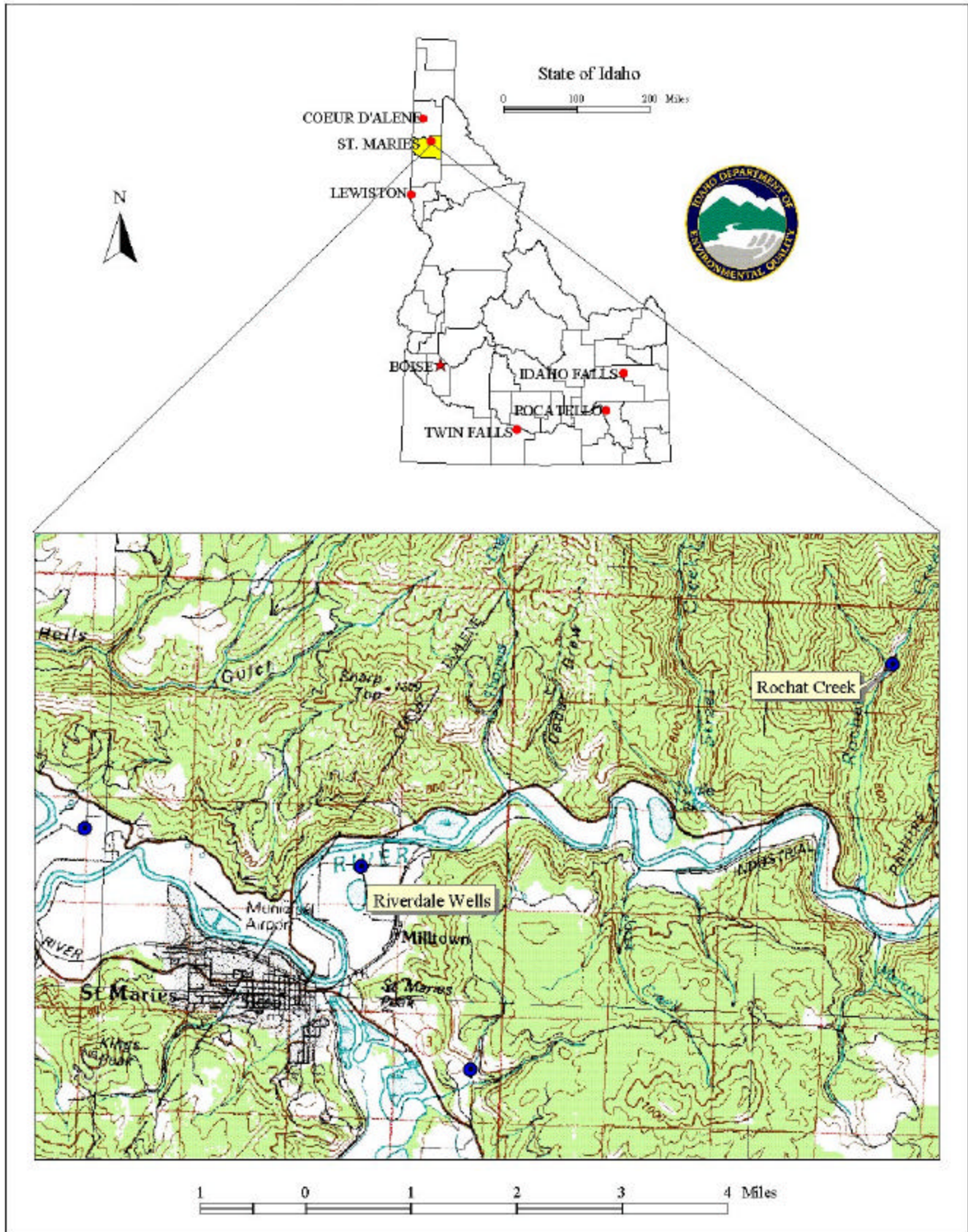
The following sections contain information necessary for understanding how and why this assessment was conducted. **It is important to review this information to understand what the ranking of this source means.** A map showing the delineated source water assessment area and an inventory of significant potential sources of contamination identified within that area are included. The ground water Susceptibility Analysis Worksheet used to develop this assessment is attached.

Level of Accuracy and Purpose of the Assessment

The Idaho Department of Environmental Quality (DEQ) is required by the U.S. Environmental Protection Agency (EPA) to assess every public drinking water source in Idaho for its relative susceptibility to contaminants regulated by the Safe Drinking Water Act. These assessments are based on a land use inventory inside the delineated recharge zones, sensitivity factors associated with how the well is constructed, and aquifer characteristics. The state must complete more than 2900 assessments by May of 2003. Because resources and the time available to accomplish assessments are limited, an in-depth, site-specific investigation for every public water system is not possible.

The results of the source water assessment should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system. The ultimate goal of this assessment is to provide data to local communities for developing a protection strategy for their drinking water supply. The Idaho Department of Environmental Quality recognizes that pollution prevention activities generally require less time and money to implement than treating a public water supply system once it has been contaminated. DEQ encourages communities to balance resource protection with economic growth and development. The decision as to the amount and types of information necessary to develop a source water protection program should be determined by the local community based on its own needs and limitations. Wellhead or source water protection is one facet of a comprehensive growth plan, and it can complement ongoing local planning efforts.

Figure 1. Geographic Location of City of St. Maries



Section 2. Preparing for the Assessment

Defining the Zones of Contribution - Delineation

The delineation process establishes the physical area around a well that will become the focal point of the assessment and future protection efforts. The process includes mapping the boundaries of the well recharge area into time of travel zones indicating the number of years necessary for a particle of water flowing through the aquifer to reach a well. The ground water flow model used data DEQ assimilated from a variety of sources including local well logs and pumping volume estimates for the City of St. Maries wells.

The City of St. Maries, Idaho operates a community water system with 1535 connections serving a population of 2797 residents. St. Maries, the Benewah County seat, is located adjacent to the St. Joe River (Figure 1). Surface water from Rochat Creek is the primary source of drinking water. 2 wells located in Riverdale, a low lying area in the St. Joe flood plain that is protected by dikes, are used as back up sources in the summer or during repairs to the Rochat Creek facilities.

The recharge zone delineated for the Riverdale wells is roughly circular, and encloses about 110 acres divided into 0-3, 3-6 and 6-10 year time of travel zones (Figure 2).

Identifying Potential Sources of Contamination

The goal of the inventory process is to locate and describe those facilities, land uses, and environmental conditions that are potential sources of ground water contamination. Inventories for all public water systems in Idaho were conducted in two-phases. The first phase involved identifying and documenting potential contaminant sources within a system's source water assessment area through the use of computer databases and Geographic Information System maps developed by DEQ. Maps showing the delineations and tables summarizing the results of the database search were then sent to system operators for review and correction during the second or enhanced phase of the inventory process.

Figure 2 shows the location of the City of St. Maries Riverdale wells, the delineated recharge zone and potential contaminant sites in the vicinity. Many potential sources of contamination are regulated at the federal level, state level, or both to reduce the risk of release. When a business, facility, or property is identified as a potential contaminant source, this should not be interpreted to mean that this business, facility, or property is in violation of any local, state, or federal environmental law or regulation. What it does mean is that the potential for contamination exists due to the nature of the business, industry, or operation.

Section 3. Susceptibility Analysis

The susceptibility to contamination of all ground water sources in Idaho is being assessed on the following factors:

- physical integrity of the well,
- hydrologic characteristics,
- land use characteristics, and potentially significant contaminant sources
- historic water quality

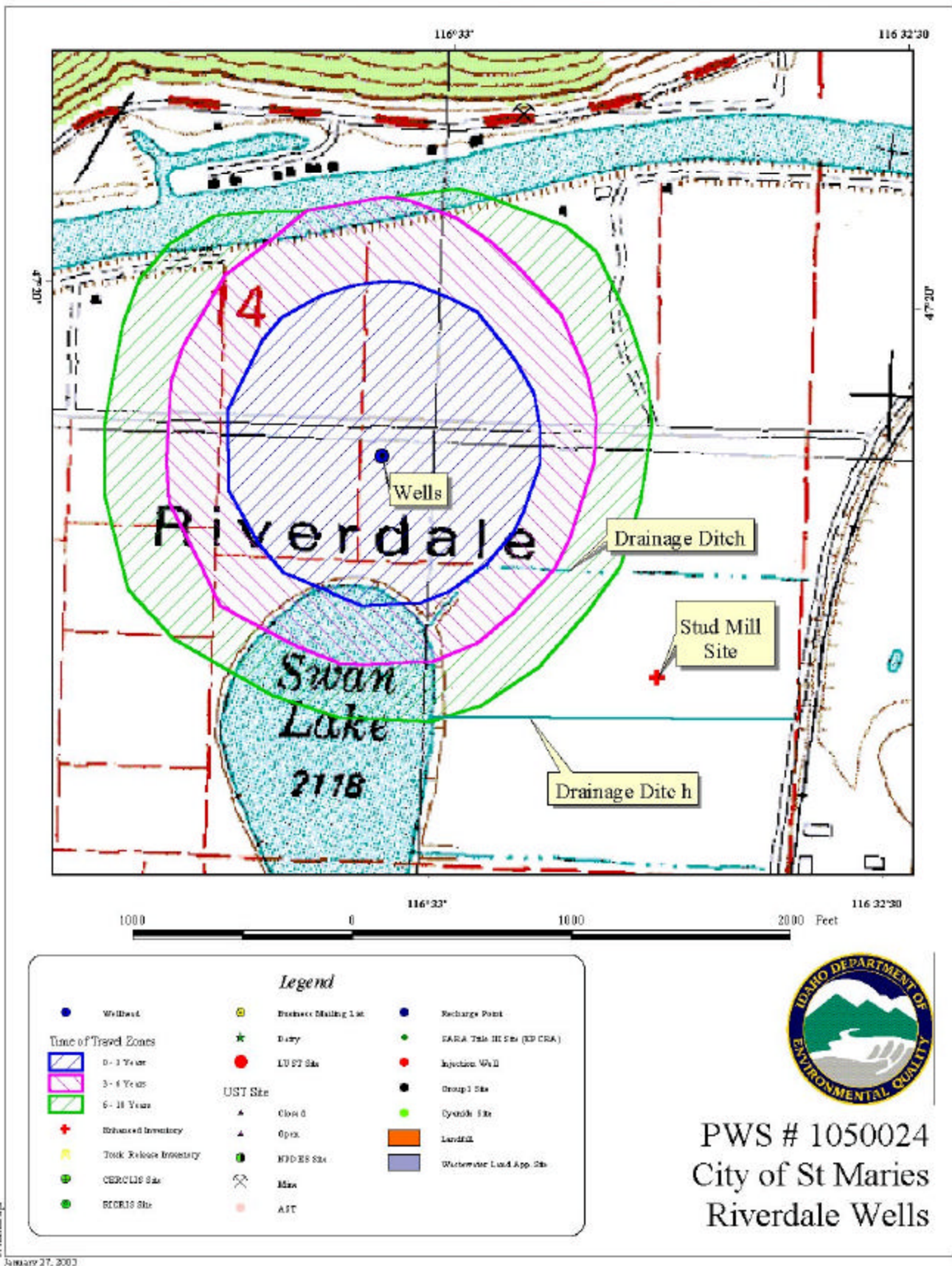
The susceptibility rankings are specific to a particular potential contaminant or category of contaminants. A high susceptibility rating relative to one potential contaminant does not mean that the water system is at the same risk for all other potential contaminants. The relative ranking that is derived for each well is a qualitative, screening-level step that, in many cases, uses generalized assumptions and best professional judgement. The following summaries describe the rationale for the susceptibility ranking. The Susceptibility Analysis Worksheets for the City of St. Maries wells in Attachment A show in detail how the wells scored.

Well Construction

Construction features directly affect the ability of the wells to protect the aquifer from contaminants. Lower scores imply a well that can better protect the water. This portion of the susceptibility analysis relies on information from individual well logs and from the most recent sanitary survey of the public water system. Well logs are available for both of the Riverdale wells. When the water system was inspected in June 2001 it was being operated and maintained in substantial compliance with the *Idaho Rules for Public Water Systems*.

The Riverdale wells were drilled in December 1980 and January 1981. Riverdale #1 is 327 feet deep with a 0.375 gauge, 14-inch diameter steel casing to a depth of 325 feet and a well screen set from 318 to 327 feet. Riverdale #2 is 336 feet deep with a 14 inch casing to a depth of 310 feet and well screen from 301 to 312 feet. The 18-foot deep surface seals on both wells terminate in clay. Both wells are artesian with an 80-foot deep confining layer of clay above the water table. When the wells are not in use, the water they produce is routed into a drainage canal. Current Idaho Department of Water Resources well construction standards for artesian wells that flow at the surface require installation of a control valve capable of completely stopping the flow to guard against waste.

Figure 2. City of St. Maries Riverdale Wells Delineation and Potential Contaminant Inventory.



Hydrologic Sensitivity

Hydrologic sensitivity scores reflect natural geologic conditions at the well site and in the recharge zone. Information for this part of the analysis is derived from individual well logs and from the soil drainage classification inside the delineation boundaries. The City of St. Maries Riverdale wells scored 1 point out of 6 points possible in the hydrologic sensitivity portion of the susceptibility analysis.

Soils in the recharge zone for the wells are generally are poorly to moderately well drained. Soils that drain slowly are deemed more protective of ground water than rapidly draining soil. At the well sites, 80 feet of clay protect the ground water from vertical transport of contaminants. In both wells, water was first encountered in a seam of fine sand 85 to 115 feet below the surface.

Potential Contaminant Sources and Land Use

The Riverdale wells are located in the floodplain of the St Joe River and about 600 feet north of a small body of water known as Swan Lake. Agriculture is the primary land use in the recharge zone. Surface water and agricultural land use are the only potential sources of contamination documented inside the delineation boundaries. A stud mill site is located southeast of the delineated area. Drainage ditches from the mill site, one of which crosses the 3-6 and 6-10 year time of travel zones delineated for the wells, empty into Swan Lake. Pilings in the millpond were driven to a depth of 40 to 60 feet and may have penetrated the aquifer.

Historic Water Quality

The Riverdale wells have had no water quality problems other elevated concentrations of manganese. Manganese is not a health threat, but it imparts an objectionable taste odor and color to the water. The City of St. Maries deals with the manganese problem by injecting a chemical sequestering agent, and by diluting the well water with water from Rochat Creek. Chemical and radiological sampling results for the Riverdale wells are summarized on the table below.

Table 1. City of St. Maries Riverdale Wells Chemical Sampling Results

Primary IOC Contaminants (Mandatory Tests)							
Contaminant	MCL (mg/l)	Results (mg/l)	Dates	Contaminant	MCL (mg/l)	Results (mg/l)	Dates
Antimony	0.006	ND	2/8/01	Nitrate	10	ND	9/2/93 through 12/11/00
Arsenic	0.01	0.008	2/8/01	Nickel	N/A	ND	2/8/01
Barium	2.0	ND	2/8/01	Selenium	0.05	ND	2/8/01
Beryllium	0.004	ND	2/8/01	Sodium	N/A	18.2	2/8/01
Cadmium	0.005	ND	2/8/01	Thallium	0.002	ND	2/8/01
Chromium	0.1	ND	2/8/01	Cyanide	0.02	ND	2/8/01
Mercury	0.002	ND	9/5/97, 9/19/97, 5/27/98, 2/8/01	Fluoride	4.0	0.31	2/8/01
Secondary and Other IOC Contaminants (Optional Tests)							
Contaminant	Recommended Maximum (mg/l)		Results (mg/l)		Dates		
Manganese	0.05 mg/l		0.23 to 0.66 mg/l		10/21/85 to 2/8/01		
Iron			0.01 to 0.15 mg/l		10/21/85 to 2/8/01		

Table 1. City of St. Maries Riverdale Wells Chemical Sampling Results continued

Regulated and Unregulated Synthetic Organic Chemicals			
Contaminant		Results	Dates
29 Regulated and 13 Unregulated Synthetic Organic Compounds		None Detected	8/17/93
Regulated and Unregulated Volatile Organic Chemicals			
Contaminant		Results	Dates
21 Regulated And 16 Unregulated Volatile Organic Compounds		None Detected	8/17/93
Radiological Contaminants			
Contaminant	MCL	Results	Dates
Gross Alpha, Including Ra & U	15 pC/l	2.7, 5.5 pC/l	4/8/93, 10/18/01
Gross Beta Particle Activity	4 mrem/year	4.9 mrem 4.6 pC/l	4/8/93 10/18/01

Final Susceptibility Ranking

The City of St. Maries Riverdale wells are at a low risk relative to all classes of regulated contaminants. Total scores for system construction and hydrologic sensitivity along with the cumulative scores for land use and potential contaminant sites are shown on Table 2. The complete Susceptibility Analysis Worksheets for the City of St. Maries wells are in Attachment A.

The final scores for the susceptibility analysis were determined using the following formulas:

- 1) VOC/SOC/IOC Final Score =
Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.2)
- 2) Microbial Final Score =
Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

The final ranking categories are as follows:

- 0 - 5 Low Susceptibility
- 6 - 12 Moderate Susceptibility
- > 13 High Susceptibility.

Table 2. Summary of City of St. Maries Susceptibility Evaluation

Cumulative Susceptibility Scores						
Well Name	System Construction 0-6 possible	Hydrologic Sensitivity 0-6 possible	Contaminant Inventory plus Land Use			
			IOC 0-30 possible	VOC 0-30 possible	SOC 0-30 possible	Microbial 0-14 possible
Riverdale #1	2	1	4	4	4	5
Riverdale #2	2	1	4	4	4	5
Final Susceptibility Scores/Ranking						
Well Name	IOC 0-18 possible	VOC 0-18 possible	SOC 0-18 possible	Microbial 0-15 possible		
Riverdale #1	4/Low	4/Low	4/Low	5/Low		
Riverdale #2	4/Low	4/Low	4/Low	5/Low		

Section 4. Options for Source Water Protection

The susceptibility assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what the susceptibility ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

St. Maries already has some important drinking water protections in place for the Riverdale wells. The wells are located in an undeveloped area northeast of town where there are few potential sources of contamination. A 6-foot high fence with a locked gate surrounds the well lot. Chemical monitoring is current. The City of St. Maries water system is well run and was in substantial compliance with the *Idaho Rules for Public Drinking Water Systems* when it was inspected in June 2001. Deficiencies pertaining to the wells noted during the sanitary survey included the need for repair of settling damage between Well #1 and the valve vault, and the need for covered secure storage for the manganese sequestering agent and hypochlorite outside of the valve vault. Silt deposits on the wellheads suggest that sump pumps in the well vaults may not keep the vaults dry during flood conditions. The city needs to conduct a second microscopic particulate analysis during a high water period before a final determination can be made regarding direct surface water influence on the wells. St. Maries is in the process of creating a cross connection control program.

Public education should be a big part of any protection plan the city develops for its wells. It might be useful to visit land owners in the recharge zone and to distribute best management practices brochures related to agriculture, since that is the most important land use inside the delineated area. Partnerships with other governmental agencies should also be established. Ground water protection measures related to agriculture could be coordinated through the county extension office for instance or the Natural Resource Conservation Service.

St. Maries is fortunate to have the Rochat Creek source in addition the wells, but the city should still have a written water emergency response plan. There is a simple fill-in-the-blanks form available on the DEQ website (www.deq.state.id.us/water/water1.htm) to guide systems through the process.

Assistance

Public water suppliers and users may call the following IDEQ offices with questions about this assessment and to request assistance with developing and implementing a local protection plan. In addition, draft protection plans may be submitted to the IDEQ office for preliminary review and comments.

Idaho Department of Environmental Quality

Coeur d'Alene Regional IDEQ Office

(208) 769-1422

State IDEQ Office, Boise

(208) 373-0502

Website:

<http://www.deq.state.id.us/>

Idaho Rural Water Association

Melinda Harper, Groundwater Protection Specialist

(800) 962-3257

Website:

<http://www.idahoruralwater.com>

Idaho Association of Soil Conservation Districts

Water quality and soil conservation

(208) 338-5900

Website:

<http://www.iascd.state.id.us/>

References Cited

Freeze, R.A., and J.A. Cherry, 1979, Groundwater, Prentice-Hall, Inc., 604 p.

Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, 1997. "Recommended Standards for Water Works."

Idaho Department of Environmental Quality, 1997. Design Standards for Public Drinking Water Systems. IDAPA 58.01.08.550.01.

Idaho Division of Environmental Quality, 1999, Idaho Source Water Assessment Plan, October, 39 p.

Idaho Division of Environmental Quality, 1997, Idaho Wellhead Protection Plan, Idaho Wellhead Protection Work Group, February.

Idaho Department of Water Resources, 1993. Administrative Rules of the Idaho Water Resource Board: Well Construction Standards Rules. IDAPA 37.03.09.

Theis, C.V., 1935, The Relation between Lowering of the Piezometric Surface and the Rate and Duration of Discharge of a Well Using Groundwater Storage, Trans. Amer. Geophysical Union, v. 16, pp. 519-524.

Attachment A

City of St. Maries Susceptibility Analysis Worksheet

Ground Water Susceptibility

Public Water System Name : **ST MARIES CITY OF**

Source: **RIVERDALE #1**

Public Water System Number : **1050024**

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1. System Construction		SCORE			
Drill Date	12/6/81				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES 2001				
Well meets IDWR construction standards	NO	1			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	YES	0			
Highest production 100 feet below static water level	YES	0			
Well located outside the 100 year flood plain	NO	1			
Total System Construction Score		2			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	YES	0			
Vadose zone composed of gravel, fractured rock or unknown	NO	0			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	YES	0			
Total Hydrologic Score		1			
3. Potential Contaminant / Land Use – ZONE 1A (Sanitary Setback)		IOC	VOC	SOC	Microbial
		Score	Score	Score	Score
Land Use	NON IRRIGATED AGRICULTURE	1	1	1	1
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		1	1	1	1
Potential Contaminant / Land Use - ZONE 1B (3 YR. TOT)					
Contaminant sources present (Number of Sources)	YES	0	0	0	1
(Score = # Sources X 2) 8 Points Maximum		0	0	0	2
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
4 Points Maximum		0	0	0	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Greater Than 50% Non-Irrigated Agricultural Land	2	2	2	2
Total Potential Contaminant Source / Land Use Score - Zone 1B		2	2	2	4
Potential Contaminant / Land Use - ZONE II (6 YR. TOT)					
Contaminant Sources Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
Land Use Zone II	Greater Than 50% Non-Irrigated Agricultural Land	1	1	1	
Potential Contaminant Source / Land Use Score - Zone II		1	1	1	0
Potential Contaminant / Land Use - ZONE III (10 YR. TOT)					
Contaminant Source Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
Do irrigated agricultural lands occupy > 50% of Zone	NO	0	0	0	
Total Potential Contaminant Source / Land Use Score - Zone III		0	0	0	0
Cumulative Potential Contaminant / Land Use Score		4	4	4	5
4. Final Susceptibility Source Score		4	4	4	5
5. Final Well Ranking		Low	Low	Low	Low

Ground Water Susceptibility

Public Water System Name : **ST MARIES CITY OF**
Public Water System Number : **1050024**

Source: **RIVERDALE #2**
1/27/03 9:01:42 AM

1. System Construction		SCORE			
Drill Date	1/10/82				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES 2001				
Well meets IDWR construction standards	NO	1			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	YES	0			
Highest production 100 feet below static water level	YES	0			
Well located outside the 100 year flood plain	NO	1			
Total System Construction Score		2			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	YES	0			
Vadose zone composed of gravel, fractured rock or unknown	NO	0			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	YES	0			
Total Hydrologic Score		1			
3. Potential Contaminant / Land Use – ZONE 1A (Sanitary Setback)		IOC	VOC	SOC	Microbial
		Score	Score	Score	Score
Land Use	Non-Irrigated AGRICULTURE	1	1	1	1
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		1	1	1	1
Potential Contaminant / Land Use - ZONE 1B (3 YR. TOT)					
Contaminant sources present (Number of Sources)	YES	0	0	0	1
(Score = # Sources X 2) 8 Points Maximum		0	0	0	2
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
4 Points Maximum		0	0	0	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Greater Than 50% Non-Irrigated Agricultural Land	2	2	2	2
Total Potential Contaminant Source / Land Use Score - Zone 1B		2	2	2	4
Potential Contaminant / Land Use - ZONE II (6 YR. TOT)					
Contaminant Sources Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
Land Use Zone II	Greater Than 50% Non-Irrigated Agricultural Land	1	1	1	
Potential Contaminant Source / Land Use Score - Zone II		1	1	1	0
Potential Contaminant / Land Use - ZONE III (10 YR. TOT)					
Contaminant Source Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
Do irrigated agricultural lands occupy > 50% of Zone	NO	0	0	0	
Total Potential Contaminant Source / Land Use Score - Zone III		0	0	0	0
Cumulative Potential Contaminant / Land Use Score		4	4	4	5
4. Final Susceptibility Source Score		4	4	4	5
5. Final Well Ranking		Low	Low	Low	Low

04/25/03

POTENTIAL CONTAMINANT INVENTORY

LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as ? Superfund? is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System)

– Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.